



Figure 6.1. Both the water column and sediment environments influence seagrasses. While the physical and light attenuating water-column stressor may be the most important to the survival of the plant, the sediment geochemical processes, stimulated by sedimentation of reactive organic material from the water column, can affect seagrass health. Highly reduced sulfidic environments ( $\text{HS}^-$ ) can reduce seagrass production and at times can become lethal to seagrass due to root death.  $\text{HS}^-$  and metals ( $\text{Me}^+$ ) combine to produce non-toxic acid volatile sulfides (AVS). Thus the combination of high metal (Fe and Mn) in the sediments and diffusion of oxygen from the seagrass roots can reduce the toxic effects of sulfide in the near root environment (i.e., the rhizosphere) even under conditions of relatively high organic matter input to the sediments. (DIN – dissolved inorganic nitrogen, DIP – dissolved inorganic phosphorus, SOM – settling organic matter)